What is claimed is:

- 1. An elastic wire assembly, comprising:
- a non-conductive elastic core;
- a woven conductor secured to the core; and
- a non-conductive elastic sheath over the woven conductor.
- 2. The elastic wire assembly in accordance with claim 1, wherein the elastic core includes a plurality of polymer strands which can be deformed elastically.
- 3. The elastic wire assembly in accordance with claim 1, wherein the non-conductive elastic sheath includes a woven fabric.
- 4. The elastic wire assembly in accordance with claim 1, wherein the wire assembly can stretch elastically approximately 30% of the wire's relaxed length.
- 5. The elastic wire assembly in accordance with claim 1, wherein the electrical conductivity of the wire assembly remains approximately constant as the wire assembly is stretched elastically.
 - 6. An RF diathermy coil, comprising:
 - a generally elastically deformable patient-conforming garment; and
- a conductive coil secured to the garment, the conductive coil having a woven wire construction such that the coil can be deformed as the garment elastically deforms.

- 7. The RF diathermy coil assembly in accordance with claim 6, further comprising a woven RF shield connected to the garment, wherein the shield is disposed toward the exterior of the garment relative to the majority of the length of the coil.
- 8. The RF diathermy coil assembly in accordance with claim 6, wherein the conductive coil further comprises a non-conductive elastic deformable core.
- 9. The RF diathermy coil assembly in accordance with claim 8, wherein the elastic core includes a plurality of polymer strands which can form elastically.
- 10. The RF diathermy coil assembly in accordance with claim 6, wherein the coil further comprises a non-conductive elastically deformable sheath over the woven wire.
- 11. The RF diathermy coil assembly in accordance with claim 10, wherein the non-conductive sheath includes a woven fabric.
- 12. The RF diathermy coil assembly in accordance with claim 6, wherein the garment includes a polymer foam.
 - 13. The RF diathermy coil assembly, comprising:
- a primary coil, including a plurality of windings, the primary winding being connectable to a power source lead;

a secondary coil including a plurality of windings disposed proximate the primary coil;

means for tuning an RF field established by the windings.

- 14. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning is for tuning the field to the resonant frequency of a patient's body part.
- 15. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning includes a balun.
- 16. The RF diathermy coil assembly in accordance with claim 15, wherein the balun is connected to the primary coil.
- 17. The RF diathermy coil assembly in accordance with claim 13, wherein the means for tuning includes a tuning capacitor.
- 18. The RF diathermy coil assembly in accordance with claim 17, wherein the tuning capacitor is connected to the secondary coil.
- 19. The RF diathermy coil assembly in accordance with claim 13, wherein the secondary coil includes more windings than the primary coil.

- 20. The RF diathermy coil assembly in accordance with claim 13, further comprising a housing releasably connectable to the coils, the means for tuning disposed within the housing.
- 21. The RF diathermy coil assembly in accordance with claim 20, wherein the means for tuning include a tuning capacitor.
- 22. The RF diathermy coil assembly in accordance with claim 20, wherein the means for tuning includes a balun.
 - 23. A method of medical treatment, comprising the steps of:

providing an RF diathermy device including, an RF coil connected to a patient wearable garment;

providing a muscle stimulator including a plurality of electrodes; placing the garment on the patient;

activating the RF coil device to warm a wounded patient's body part to increase blood circulation therein;

placing the electrodes proximate the muscles at the wounded body part; and stimulating the muscles of the patient at the body part to increase blood circulation therein.

24. A method of medical treatment in accordance with claim 23, wherein the device is applied to a wound.

- 25. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's tissue to treat diabetic neuropathy.
- 26. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's wrist to treat Carpal Tunnel Syndrome.
- 27. A method of medical treatment in accordance with claim 23, wherein the device is applied to a patient's tissue to treat Raynaud's disease.